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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

MANIWANG, JOSEPH R

ART UNIT	PAPER NUMBER
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2142

DATE MAILED: 10/27/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/653,413

Applicant(s)

WILSON ET AL.

Examiner

Joseph R Maniwang

Art Unit

2142

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 December 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 August 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

Art Unit: 2142

DETAILED ACTION

Priority

No claim for priority has been made in this application.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 2, 6, 8, 10-12, 14-16, 18, 19, 21, and 22 are rejected under 35 U.S.C. 102(e) as being anticipated by Chan et al. (U.S. Pat. No. 6,381,603), hereinafter referred to as Chan.

With reference to one disclosed embodiment in the invention of Chan wherein a system was provided for storing and receiving event data, Chan disclosed the invention as claimed by the applicant.

Regarding claims 1 and 6, distribution of geospatial data over a network in real-time was taught in column 2, lines 10-28 and claim 31. The use of maps stored in a database representing the geospatial data was disclosed in column 9, line 58 through column 10, line 8. Chan disclosed the possibility of arranging databases in an object-oriented manner for attribute searching. See column 8, lines 10-11. Storage of the database in a computer system on the network was disclosed in column 7, lines 56-59. Chan disclosed displaying points on a map representing points of interest. See column 9, line 67 through column 10, line 3.

Art Unit: 2142

The points of interest represented search results of a query that the user could make about the data in the event database. The results were received over the network and displayed on the user computer. See column 2 lines 54-56 and column 9, line 58 through column 10, line 19.

Regarding claim 2, Chan further disclosed the use of time criteria in the invention. See column 9, lines 45-50.

Regarding claim 8, Chan disclosed distributing data including spatial and temporal information over a network. See column 9, line 59 through column 10, line 1. The database was disclosed to contain both spatial and temporal information and stored on a computer system in the network. See column 7, line 54 through column 8, line 11 and column 9, lines 45-50. Chan disclosed querying the database using spatial criteria in column 9, lines 18-33.

Regarding claims 10-12 and 14-16, Chan disclosed a system to distribute spatial and temporal information in real-time over a network. A server coupled to a database storing both spatial and temporal information, the ability to query the database, and displaying a map image, areas of interest, and data associated with the areas of interest on the map were disclosed in claims 19 and 28.

Regarding claim 18, the system disclosed by Chan included a server for storing and querying database information (see column 2, lines 29-38), and a client that communicated to the server over the Internet for querying the database (see column 2, lines 54-56). Regarding claim 19, Chan disclosed the server operating under the Solaris operating system (see column 7, lines 49-51), while the client operated under the Windows operating system (see column 8,

Art Unit: 2142

lines 38-40). Regarding claim 21, Chan disclosed the ability to update the database through the Internet. See column 2, lines 39-53.

Regarding claim 22, Chan disclosed the ability for a server to not only service an information consumer but to also receive from an information provider updated database information. See column 2, lines 29-53. In this way, the server acts as a client-server as claimed.

Claims 1 and 6 are rejected under 35 U.S.C. 102(b) as being anticipated by Bouve et al. (U.S. Pat. No. 5,682,525), hereinafter referred to as Bouve.

Bouve disclosed the method as claimed. Distribution of geospatial data over a network was taught in the Abstract and claim 1. Bouve disclosed maps (or "geographic vicinities") to denote geographic regions. See column 2, lines 7-9. Such maps were stored in a database (see column 2, lines 13-16), and the possibility of programming such a database in an object-oriented manner was taught in column 11, lines 24-30. Storing the database on a server on the network was taught in column 2, lines 2-4. Displaying active data points of interest on the displayed maps was taught in column 2, lines 19-31 and 45-58. Bouve also disclosed the ability to query the database about points of interest within the selected geographic vicinity, the results of such a query transmitted back to the client for display. See column 3, lines 38-52 and column 8, line 63 through column 9, line 13.

Art Unit: 2142

Claims 1, 6, and 7 are rejected under 35 U.S.C. 102(e) as being anticipated by Darcie et al. (U.S. Pat. No. 6,577,714), hereinafter referred to as Darcie.

Regarding claims 1 and 6, Darcie disclosed a map-based directory service, where a server stored a map database of geospatial data, along with other information relating to certain geographical locations. See column 3, lines 17-28. Such a database was disclosed as object-oriented. See column 7, lines 8-12. A user connected to the server through the Internet could query the server for information corresponding to a geographic region (see column 10, lines 29-37), the results of which were displayed with selectable icons on the displayed maps (see column 2, lines 13-30, and column 15, line 37 through column 16, line 25).

Regarding claim 7, Darcie disclosed a structure for organizing data similar to that claimed by the applicant. The applicant defined a database as information grouped together for a specific purpose. The use of databases thus was taught by Darcie in column 3, lines 17-28. The applicant defined a library as groups of features differing in scale and region. Darcie described such a hierarchical data scheme in column 5, line 56 through column 6, line 5, where data could be displayed to differing degrees of detail. The applicant defined themes as a group of similar features, for instance features concerning transportation. Such a grouping system was taught by Darcie in column 5, lines 43-50. Finally, features were taught by Darcie in column 5, lines 41-43.

Art Unit: 2142

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 3 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chan et al. (U.S. Pat. No. 6,381,603), hereinafter referred to as Chan, as applied to claim 1 above, further in view of Koller et al. ("Virtual GIS: A Real-Time 3D Geographic Information System", GVU Technical Report GIT-GVU-95-14, Georgia Institute of Technology), hereinafter referred to as Koller, and further in view of Trovato (U.S. Pat. No. 6,183,364), hereinafter referred to as Trovato.

Chan disclosed the invention substantially as claimed as detailed above. The system disclosed by Chan can be considered a Geographic Information System (GIS), as it fits the definition of a GIS, which is a computer system for capturing, storing, checking, integrating, manipulating, analyzing, and displaying data related to positions on the Earth's surface. Chan did not disclose displaying data objects in 3D, and further did not disclose converting the 2D data objects to 3D for display.

Koller taught of a "Virtual GIS", in which there was provided a 3D visualization means for terrain data. Koller disclosed that such a Virtual GIS could be used anywhere a traditional GIS could be used (see page 2, section 1).

Trovato disclosed an electronic game using map data to create a "rich environment". See Abstract. A rich environment was, for example, a simulated city. See column 2, lines 30-33. The maps providing information for creating the rich environments were two-dimensional. See column 2, lines 19-20. Furthermore, rich environments were created from the 2D maps by an "environment grower" (see column 2, lines 20-30).

Chan did not disclose displaying geographical data in 3D, but through the teachings of Koller, it would have been obvious to incorporate such an option. One of ordinary skill in the art would have been motivated to consider the use of 3D display in the invention of Chan, as Koller stated the possibility of using Virtual GIS anywhere a traditional GIS was used (see page 2, section 1). Furthermore, Chan stated the desire to provide fast and accurate information (see column 3, lines 30-56), the success of which would have been benefited from the use of Virtual GIS, as Koller disclosed that Virtual GIS provided advantages in both speed and detail in a GIS as compared to conventional 2D or even other 3D GIS (see page 2, section 1 and page 9, section 6). Claim 3 is thus rejected.

Using a process to convert 2D data into 3D data would have also been obvious to incorporate in the invention of Chan. Trovato taught the use of an "environment grower" that made use of 2D maps stored in a database to create rich environments, a type of which included the Virtual GIS mentioned above (see column 2, lines 19-35). Claim 4 is thus rejected, since Trovato disclosed

Art Unit: 2142

such a Virtual GIS-type environment grower to convert 2D map data into a 3D rich environment for display as claimed.

Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Darcie et al. (U.S. Pat. No. 6,577,714), hereinafter referred to as Darcie, further in view of what was known at the time of invention.

Darcie disclosed a map-based directory system wherein a database server communicated geographic information to client terminals. See Abstract. The database server included a map database (see column 3, lines 17-20). Darcie disclosed that the information stored in the map database was structured as a spatial database. See column 5, lines 15-20. Darcie also disclosed the possibility of storing map data in vector format (see column 5, lines 21-32) or raster format (see column 5, lines 33-35), and that many GIS could be configured to handle both vector and raster data from a wide variety of sources (see column 5, lines 35-39). Darcie disclosed that the map database was an object-oriented database (see column 7, lines 8-12). Objects within the map database contained both spatial and non-spatial data (see Table 1).

While Darcie disclosed the ability to handle data from various sources containing vector and raster data, Darcie did not specifically mention the use of Vector Product Format (VPF) or Raster Product Format (RPF) databases. Darcie further did not disclose the combination of objects from different sources (such as VPF or RPF databases) into a single database.

Art Unit: 2142

Examiner takes Official Notice (see MPEP § 2144.03) that the purpose of VPF and RPF in a computer networking environment were well known in the art at the time the invention was made. Specifically, VPF and RPF were known as standards for use in GIS, describing not product specification but rather a generic structure and format conventions for a dataset.

As Darcie disclosed the use of both vector and raster formats in a map database, it would have been obvious for such a database to employ a VPF or RPF convention, as each was a well-known standard for GIS data at the time of the invention. One of ordinary skill in the art would have been motivated to use such standards as it was a goal in the invention disclosed by Darcie for a GIS to accept data from a wide variety of sources (see column 5, lines 35-39), the success of which is obviously benefited from the adherence to a convention standard. Furthermore, since Darcie desired the GIS—in the disclosed invention, a “database handler” (see column 4, line 65 through column 5, line 5)—to accept both vector and raster data from a wide variety of sources as previously recited, it would have been obvious to instantiate objects within the map database adhering to both VPF and RPF conventions, since the database handler disclosed retrieved all map data from the single map database (see column 5, lines 2-11). Thus, it would have been obvious to one of ordinary skill in the art at the time of invention to modify the invention disclosed by Darcie to fit the limitations set forth in claim 9.

Art Unit: 2142

Claims 5, 13, and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chan et al. (U.S. Pat. No. 6,381,603), hereinafter referred to as Chan (USPAT), as applied to claims 1, 12, and 16 above, and further in view of Chan et al. ("Efficient Query Result Retrieval over the Web", Proceedings. Seventh International Conference on Parallel and Distributed Systems, 2000., 4-7 July 2000), hereinafter referred to as Chan (IEEE).

Chan (USPAT) disclosed the invention substantially as claimed as detailed above. Chan (USPAT) described a GIS using an object-oriented database over the Internet, but did not specifically mention conforming the system to the CORBA specifications.

Chan (IEEE) disclosed efficient methods for querying a database over the Internet. Of most interest is disclosed use of CORBA, stated by Chan (IEEE) to be commonly implemented in distributed object database servers. See Abstract. Querying databases over the internet were also discussed by Chan (IEEE) in the context of a GIS (see page 161, section 1).

Chan (USPAT) disclosed a GIS, and further the ability to use a distributed database architecture (see column 7, lines 54-64) in which databases could be object-oriented (see column 8, lines 10-11). Chan (USPAT) further disclosed the use of the Internet as means for data distribution (see column 2, lines 13-17). Chan (IEEE) disclosed that in the Web environment, a database server was commonly implemented with a distributed object technology such as CORBA, such a database server referenced in context to a GIS (see Abstract). Therefore, implementing the distributed database architecture in the GIS disclosed by Chan

Art Unit: 2142

(USPAT) to conform to the CORBA protocol would have been obvious, as it was disclosed by Chan (IEEE) to be a common practice for such database servers. Furthermore, the database disclosed by Chan (USPAT) was described as object oriented, distributed data objects over the Internet, and was used in a GIS, thus benefiting from the use of the CORBA protocol, which was designed to facilitate such communications.

Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Chan (U.S. Pat. No. 6,381,603), hereinafter referred to as Chan, and further in view of what was known at the time of invention.

Chan disclosed the invention substantially as claimed as detailed above. Chan did not disclose any of the claimed data formats for use with the geospatial data, such as Vector Product Format (VPF) or Raster Product Format (RPF).

Examiner takes Official Notice (see MPEP § 2144.03) that the use of VPF and RPF in a computer networking environment were well known in the art at the time the invention was made. Specifically, VPF and RPF were known standard formats for geographic data in GIS.

Chan disclosed the use of a map database (see column 9, line 63 through column 10, line 1). Using VPF or RPF standards in such a database would have been obvious since both standards were well known data formats for use in GIS at the time of invention. Thus, claim 20 is rejected as being obvious to one of ordinary skill in the art at the time of invention.

Conclusion

The Applicant is entitled to traverse any/all official notice taken in this action according to MPEP § 2144.03. However, MPEP § 2144.03 further states "See also *In re Boon*, 439 F.2d 724, 169 USPQ 231 (CCPA 1971) (a challenge to the taking of judicial notice must contain adequate information or argument to create on its face a reasonable doubt regarding the circumstances justifying the judicial notice)." Specifically, *In re Boon*, 169 USPQ 231, 234 states "as we held in *Ahlert*, an applicant must be given the opportunity to challenge either the correctness of the fact asserted or the notoriety or repute of the reference cited in support of the assertion. We did not mean to imply by this statement that a bald challenge, with nothing more, would be all that was needed". Further note that 37 CFR § 1.671(c)(3) states "Judicial notice means official notice". Thus, a traversal by the Applicant that is merely "a bald challenge, with nothing more" will be given very little weight.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Couturier (U.S. Pat. No. 6,600,751), disclosed the use of CORBA in a network gateway.

de Hond (U.S. Pat. No. 5,737,533) disclosed querying a search engine, compiling the results of the search into a virtual scene, and displaying the interactive virtual scene to a user for navigation/manipulation.

Sotiroff et al. (U.S. Pat. No. 5,852,810) disclosed display of a graphical map allowing the user to narrow the search area to a desired region, including

Art Unit: 2142

provision for displaying linked information associated with entities represented by icons on the map.

Dunworth et al. (U.S. Pat. No. 5,930,474) disclosed a "view-point" map of a selected geographical area logically coupled to various databases for retrieval, assembly, and display of information relating to goods and services available within the map region.

Takagi (U.S. Pat. No. 6,107,961) disclosed the compilation of information gathered by query from multiple remote databases into a map display with customizable information filtering and display.

Woo (U.S. Pat. No. 6,336,074) disclosed a portable computer device using graphical maps stored with other locality information in a portable document format. The system provided hypertext access to linked information.

Iwamura et al. (U.S. Pat. No. 5,602,564) disclosed generating 2D and 3D scenes from map data with the ability to select displayed objects within the scene for more detailed information concerning the object.

Lancaster et al. (U.S. Pat. No. 6,229,546) disclosed a system for generating a 3D simulation of real terrain.

DeLorme et al. (U.S. Pat. No. 6,321,158) disclosed a system for displaying maps with points of interest customizable through user query.

Clementini et al. ("An object-oriented conceptual model for the representation of geographic information", Applied Computing, 1991., [Proceedings of the 1991] Symposium on , 3-5 April 1991) disclosed data models for geographic information in an object oriented context.

Art Unit: 2142

Clementini et al. ("Browsing in geographic databases: an object-oriented approach", Visual Languages, 1990., Proceedings of the 1990 IEEE Workshop on , 4-6 Oct. 1990) disclosed an objected oriented methodology of arranging geographical information in such a way as to enable hierarchical assembly of information, efficient filter, graphical representation of locality information, and multimedia inclusion.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph R Maniwang whose telephone number is (703) 305-3179. The examiner can normally be reached on Mon-Fri 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David A Wiley can be reached on (703) 308-5221. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 306-5484.

JM

MARC D. THOMPSON
MARC THOMPSON
PRIMARY EXAMINER